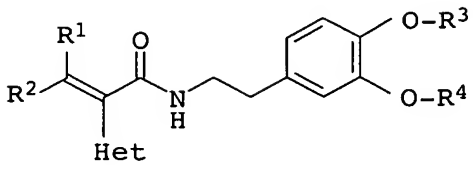
We claim:

1. Phenethylacrylamides of the formula I



in which the substituents R^1, R^2, R^3 and R^4 have the following meanings:

R^1 is hydrogen, halogen, C_1-C_4-alkyl, C_1-C_4-alkoxy, C_3-C_{10}-cycloalkyl, C_1-C_4-haloalkoxy or C_1-C_4-haloalkyl;

R^2 is hydrogen, halogen, C_1-C_4-alkyl, C_1-C_4-alkoxy, C_3-C_{10}-cycloalkyl, C_1-C_4-haloalkoxy or C_1-C_4-haloalkyl;

R^3 is C_1-C_4-alkyl, C_1-C_4-haloalkyl, propargyl, C_3-C_4-alkenyl or $-H_2C-C\equiv C-C(R^a,R^b)-R^c$, where R^a,R^b independently of one another are hydrogen or methyl and R^c is hydrogen or C_1-C_4-alkyl;

R^4 is methyl or C_1-haloalkyl; and

Het is a 5- or 6-membered heteroaromatic ring which may contain a fused 5- or 6-membered carbocycle and which is selected from among heteroaromatic rings containing 1, 2, 3 or 4 nitrogen atoms as ring members, heteroaromatic rings which contain 1 or 2 nitrogen atoms and 1 or 2 further heteroatoms selected from among oxygen or sulfur as ring members, and heteroaromatic rings which have 1 or 2 heteroatoms selected from among oxygen and sulfur as ring members, Het being unsubstituted or it being possible for Het to contain 1, 2 or 3 substituents S selected from among halogen, C_1-C_4-alkyl, C_1-C_4-haloalkoxy, C_1-C_4-haloalkyl and C_1-C_4-alkoxy.

2. A phenethylacrylamide of the formula I as claimed in claim 1, in which R^2 is hydrogen and R^1 is a radical other than hydrogen.

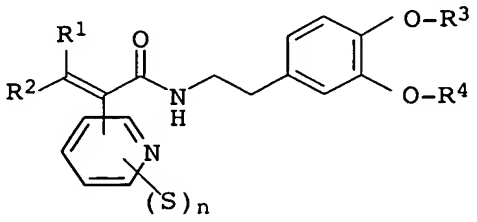
3. A phenethylacrylamide of the formula I as claimed in claim 2, wherein R^1 is C_1-C_4-alkyl or C_3-C_6-cycloalkyl, in particular ethyl, isopropyl, tert-butyl or cyclopropyl.

4. A phenethylacrylamide of the formula I as claimed in any of the preceding claims, wherein Het is selected from among pyridyl, pyrimidinyl, pyrazinyl, pyrrolyl, thienyl, furanyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl and isothiazolyl.

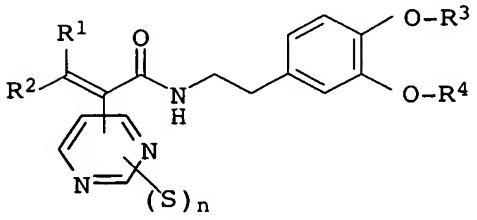
5. A phenethylacrylamide of the formula I as claimed in claim I in which R^1 and R^2 are identical and are Cl, F or CH_3.

6. A phenethylacrylamide of the formula I as claimed in any of the preceding claims, wherein Het contains one or two substituents S which are bonded to those ring atoms which are not adjacent to the linkage site forming the double bond.

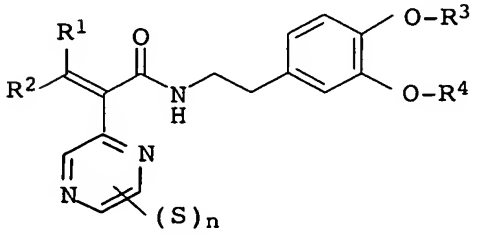
7. A phenethylacrylamide of the formulae I.1, I.2 and I.3



(I.1)



(I.2)

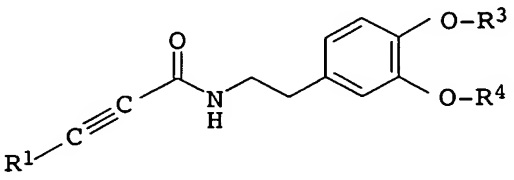


(I.3)

in which the substituents S, R^1, R^2, R^3 and R^4 have the abovementioned meanings and n is 1 or 2, and S is not bonded in the ortho position relative to the linkage site.

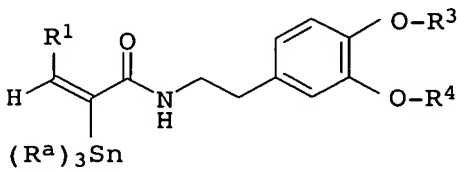
8. A process for the preparation of a phenethylacrylamide of the formula I as claimed in any of the preceding claims, wherein R^2 is hydrogen and R^1 is hydrogen, C_1-C_4-alkyl, C_3-C_8-cycloalkyl or C_1-C_4-haloalkyl, and Het, R^3 and R^4 have the abovementioned meanings, comprising the following steps:

a) reaction of a phenethylamide of the formula II,



(II)

in which the substituents R^1, R^3 and R^4 have the abovementioned meanings, with a trialkylstannane $(R^a)_3SnH$, wherein R^a is alkyl resulting in a compound of the formula III



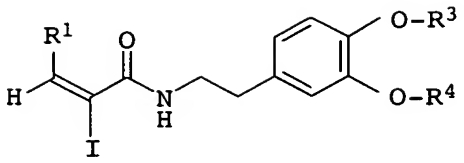
(III)

wherein the substituents R^a, R^1, R^3 and R^4 have the abovementioned meanings, and

b) reaction of the compound III obtained in step a) with a compound Het-Hal, wherein Hal is bromine or iodine and Het has the meaning given in claim 1, in the presence of catalytically active amounts of a transition metal compound of a group VIII metal;

or

a') reaction of a compound of the formula II with at least stoichiometric amounts of iodine, resulting in a compound of the formula IV

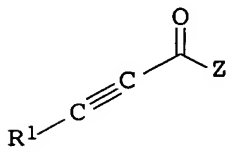


(IV)

wherein the substituents R^1, R^3 and R^4 have the abovementioned meanings, and

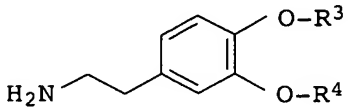
b') reaction of the compound IV obtained in step a') with a stannane of the formula $(R^a)_3Sn$-Het, wherein Het has the meaning stated in claim 1, in the presence of catalytically active amounts of a transition metal compound of a group VIII metal.

9. A process as claimed in claim 8, additionally comprising the preparation of the phenethylamide of the formula II, wherein a propiolic acid compound of the formula V



(V)

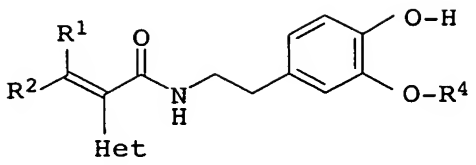
wherein R^1 has the abovementioned meaning and Z is halogen or OH, is reacted in a manner known per se with a phenethylamine of the general formula VI



(VI)

wherein R^3 and R^4 have the abovementioned meanings.

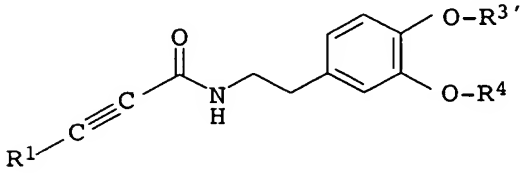
10. A process for the preparation of a phenethylacrylamide as claimed in claim 1 of the formula I, wherein a phenethylacrylamide of the formula I where R^3 = H:



(I {R^3 = H})

wherein Het, R^1, R^2 and R^4 have the abovementioned meanings, is reacted with a compound of the formula R^3-Y, wherein R^3 has the abovementioned meaning and Y is a nucleophilically displaceable leaving group.

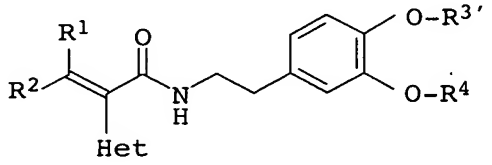
11. A phenethylamide of the formula II'



(II')

wherein the substituents R^1 and R^4 have the abovementioned meanings, $R^{3'}$ has the meanings stated for R^3 or $R^{3'}$ is hydrogen or an OH protecting group.

12. A phenethylacrylamide of the formula I':



(I')

wherein Het, R^1, R^2 and R^4 have the abovementioned meanings and $R^{3'}$ is hydrogen or an OH protecting group.

13. A composition for controlling phytopathogenic harmful fungi comprising a solid or liquid carrier and a compound of the formula I as claimed in any of claims 1 to 7.

14. A method of controlling phytopathogenic harmful fungi, which comprises treating the fungi or the materials, plants, the soil or seed to be protected from fungal infection with an effective amount of a compound of the formula I as claimed in any of claims 1 to 7.